

NOTES AND A NEW SPECIES IN CYBAEINA

(Arachnida: Agelenidae)¹

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Since the erection of the genus *Cybaeina* for *Cybaeus minutus* Banks by R. V. Chamberlin and W. Ivie in 1932, two more species have been added, *C. xantha* Chamberlin and Ivie, 1937, and *C. confusa* Chamberlin and Ivie, 1942. The additional species, including *C. sequoia* n. sp. described in this paper, makes it necessary to broaden the previous concept of the genus.

The genus includes all those *Cybaeinae* which bear four or five pair of ventral spines on Tibia I and lack two stout spines on the anterior distal portion of Femur I. The internal female epigynum lacks bulbous spermathecae and the patella of the male palpus bears a small ectal process. The carapace and legs lack dusky markings, the abdomen is yellow or, in the case of *C. sequoia* n. sp., pale gray with very faint markings. Size over 2.8 mm.

These spiders are known only from the damp forests along the northern Pacific Coast. Of the four species, three are found in western Oregon, one of which extends into Washington. One species is described from northern California. Their habitat is similar to that of *Cybaeus*, i.e. under bark, rocks, boards, logs, and moss in damp coniferous forests. Webs are apparently seldom used.

CYBAEINA CONFUSA Chamberlin and Ivie

(Figures 2, 3, 6)

Cybaeina confusa Chamberlin and Ivie, 1942. Bull. of the U. of Utah, 32(13):19, fig. 38, (♀).

C. confusa Chamberlin and Ivie was described from "Oregon" from one female. Additional specimens show a variability in the structure of the female epigynum.

Externally the female epigynum consists of a thin and smooth sclerotized sheet with a single transverse median opening mesal to the posterior loop of the spermathecae. The opening is a faintly visible slit, slightly curved on the antero-lateral edge, forming an undulating edge. Posterior to the opening is a calvous area representing the "median sclerite." The convoluted spermathecae are visible through the sclerotized sheet as illustrated in fig. 3. The connecting canals are not visible. Lateral to the center of the spermatheca are two shallow depressions.

¹Published with the approval of the Oregon State College Monographs Committee, Research paper No. 208, Department of Entomology, School of Science.

The internal epigynum consists of two separate and more or less identical halves; one side is described. The transparent connecting canals arise on the median line on the posterior third of the sclerotized sheet. The canals are fused at the opening, extend dorsally a distance of about twice their diameter where they divide. Each canal extends laterally to the edge of the spermatheca, turns anteriorly and then ventrally where it connects with the heavily sclerotized spermatheca. The latter consists of a strongly convoluted and compact tube as illustrated in fig. 2. The position of the canals deviate somewhat in many specimens but the general pattern is the same. Posteriorly the spermatheca narrows abruptly, forming the fertilization duct.

Chamberlin and Ivie's illustration of the epigynum of *C. confusa* indicates two circular sclerotized areas at the posterior lateral edges of the spermathecae. These areas are visible only when the coils of the spermathecae are arranged in a certain position.

Male—Color: Carapace and legs whitish-yellow. Mouthparts and sternum light yellow. Eyes ringed with violet. Abdomen whitish-grey. No dark markings.

Structure: Typical of genus. Carapace widest opposite anterior end of the thoracic furrow. Thorax evenly convex, sloping forward to the eyes from a point about one-third the distance from the eyes to the thoracic furrow. Sides of head slightly convergent anteriorly. Posterior eye row slightly procurved. Anterior eye row slightly recurved. Eye ratio: AME : 3.7, PME : 5, ALE : 6, PLE : 6. AME about two-thirds their diameter apart, and less than a radius from the ALE. Lateral eyes about two-thirds their diameter apart. PME slightly less than two diameters apart and separated from the PLE by one and one-third diameters. Clypeus one and one-third diameters of an ALE. Chelicerae almost straight, three teeth on the promargin and three or four teeth and six very small denticles on the retromargin. Fang normal with usual row of overlapping hairs. Labium slightly wider than long, about half as long as the endites and indented slightly distally. Endites converge slightly distally. Dense scopula on mesal half of anterior margin and serrula present on lateral half. Sternum shield-shaped, longer than wide, produced to a point between the hind coxae.

Abdomen sub-ovate. Anterior and posterior spinnerets widely separated. Anterior spinnerets two-segmented, the basal segment slightly conical, the distal segment hemispherical. Posterior spinnerets two-segmented², similar in shape but more slender and shorter than the anterior spinnerets. Colulus divided, each half represented by one hair (other specimens have up to four or five hairs). Opening of the spiracle slightly anterior to the colulus.

Palpus typical for genus. Patella with a slender ectal process extending ectally at right angles and terminated by four teeth (three in some specimens). Tibia with a stout cariniform process ecto-ventrally extending almost its entire length. Embolus smooth for its entire length. Legs of moderate length. Tibiae I and II with four pairs of spines ventrally. All metatarsi with 2-2-3 spines ventrally. Tarsal claws bear 10-12 teeth, median tarsal claw bears 2-4 teeth.

²The author found that the posterior spinnerets of other genera of Cybaeinae, e.g. *Cybaeus* and *Cybaeota*, are at least secondarily segmented.

Measurements in millimeters:

Total length: 3.8. Average 3.46. (3 ♂ ♂) Range 3.15–3.8.

Carapace		Metatarsus	
length	1.80	I	1.26
width	1.46	IV	1.77
head width	.62		
eye width	.45		
Femur		Tarsus	
I	1.73	I	1.19
IV	2.04	IV	1.22
Tibia-Patella		Total	
I	2.14	I	6.32
IV	2.21	IV	7.24

Allotype: Male. Collected by the author one mile west of CASCADIA, OREGON, Sept. 5, 1948, with two additional males and three females.

The allotype is deposited in the California Academy of Sciences, San Francisco. The holotype is in the University of Utah at Salt Lake City, Utah.

Distribution: West side of the Cascade Mountains in Linn and Benton counties, Oregon. Wren, Nov. 19, 1950 (2 ♀ ♀); 27 mi. N.E. Sweet Home, March 7, 1948 (2 ♀ ♀); Foster, April 18, 1948 (♀); Mary's Peak, Benton Co., June 17, 1949 (♀) F. Beer; 1 and 13 miles E. of Cascadia, July 23, 1949 (♂ and 2 immature ♂ ♂) F. Beer and V. Roth.

Most of the immature or teneral specimens of *C. confusa* bear a pinkish pigment around the eyes. This was not present in older specimens. The females ranged in size from 3.2 mm. to 5.6 mm. with the average of 4.17 mm.

Cybaeina sequoia Roth, new species

(Figures 1, 4, 5)

Holotype: Male. Color: Carapace light yellowish-orange with very slight traces of dusky markings. Eyes ringed with black. AME with a connecting black band as are the ALE and PLE. The black ring of the PME just touches the ring of the ALE. Chelicerae, endites, and labium brownish-orange. Sternum slightly lighter, darker around edges. Legs yellowish, becoming darker distally. Abdomen gray with a light median lanceolate mark over the heart. Two faint, light gray chevrons are present on the posterior half of the abdomen. Venter is light gray. Spinnerets yellow.

Structure: Typical of the genus. Carapace widest opposite anterior end of the thoracic furrow. Thorax evenly convex, sloping forward to the eyes from a point about one-third the distance from the eyes to the thoracic furrow. Sides of head slightly convergent. Posterior eye row moderately recurved. Anterior eye row straight. Eye ratio: AME:5.5, PME:9, ALE and

PLE:10.5. AME two-thirds of their diameter apart and slightly less than a radius from the ALE. Lateral eyes less than a radius apart. PME about one and one-third diameters apart and separated from the PLE by slightly less than their own diameter. Clypeus slightly narrower than the diameter of an ALE. Chelicera almost straight, three teeth on the promargin and four widely spaced teeth and seven denticles on the retromargin. Fang with usual row of overlapping hairs. Labium slightly wider than long, more than half as long as the endites and slightly notched distally. Endites converge slightly distally. Dense scopula on mesal half of anterior margin and serrula present on ectal half. Sternum shield-shaped, slightly longer than wide. The lateral edges are undulated and posteriorly the sternum is produced to a point between the hind coxae.

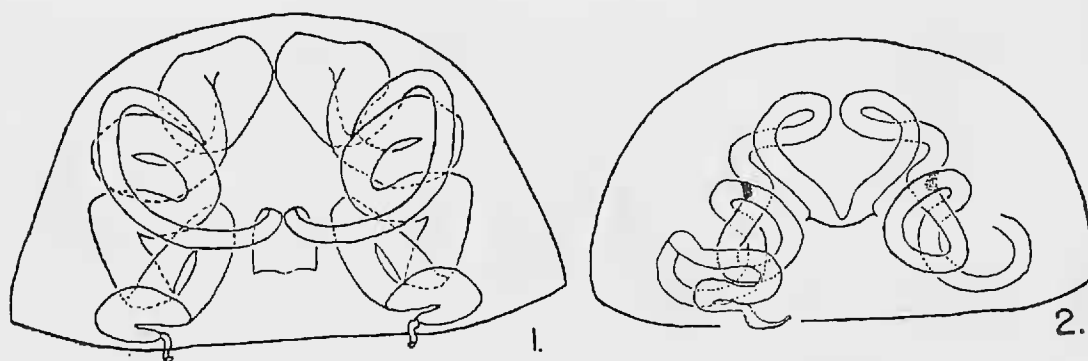


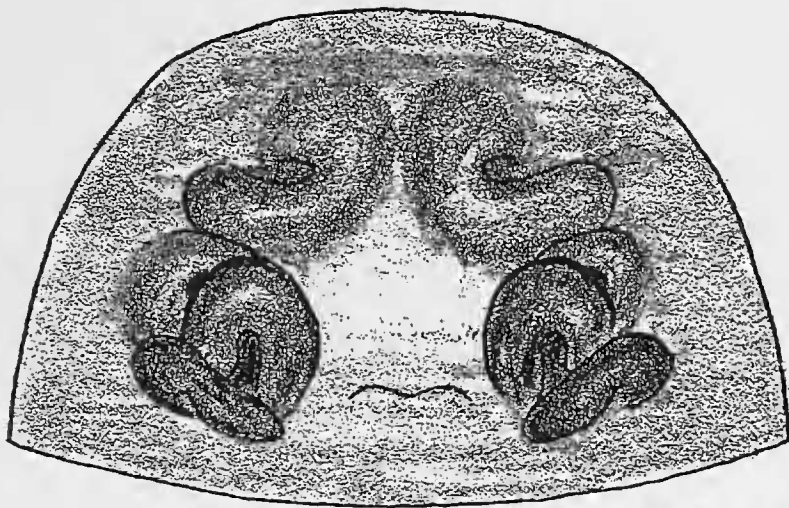
Fig. 1. Dorsal view (internal) of female epigynum of *Cybaeina confusa* Chamberlin and Ivie. Fig. 2. Same, of *Cybaeina sequoia* new species.

Abdomen sub-ovate, three-quarters as wide as long. Anterior and posterior spinnerets widely separated. Anterior spinnerets two-segmented, conical basal segment stout, distal segment short, hemispherical. Posterior spinnerets secondarily two-segmented, the distal segment very short, faintly visible with 40X magnification. Colulus divided, each half represented by two hairs. Opening of the spiracle slightly anterior to the colulus.

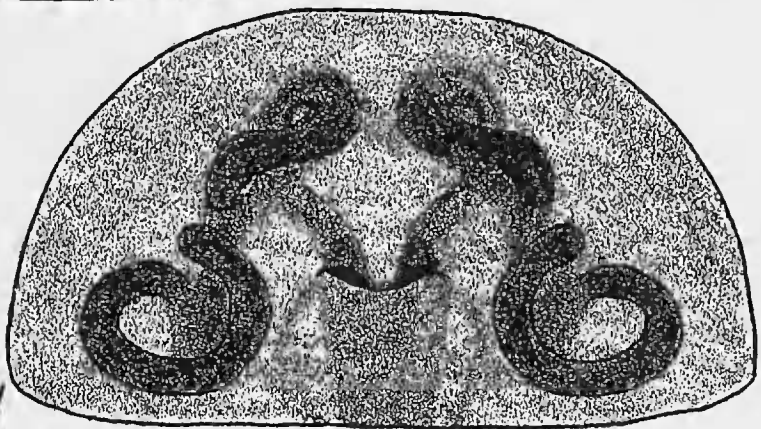
Palpus typical for genus. Embolus bears two recurved teeth flanked by a pair of shorter teeth about halfway from the base. Process of the patella arises ectally and curves distally. Right process bears four stout teeth and the left process bears five. (Most paratypes bear four teeth, one bears three). Tibia bears a stout cariniform process ectally, about two-thirds its length. Legs of moderate length. Tibiae I and II bear five pair of spines ventrally. All metatarsi bear three pair of spines. Upper tarsal claws bear nine teeth ventrally. Median tarsal claw bears six teeth ventrally.

EXPLANATION OF FIGURES

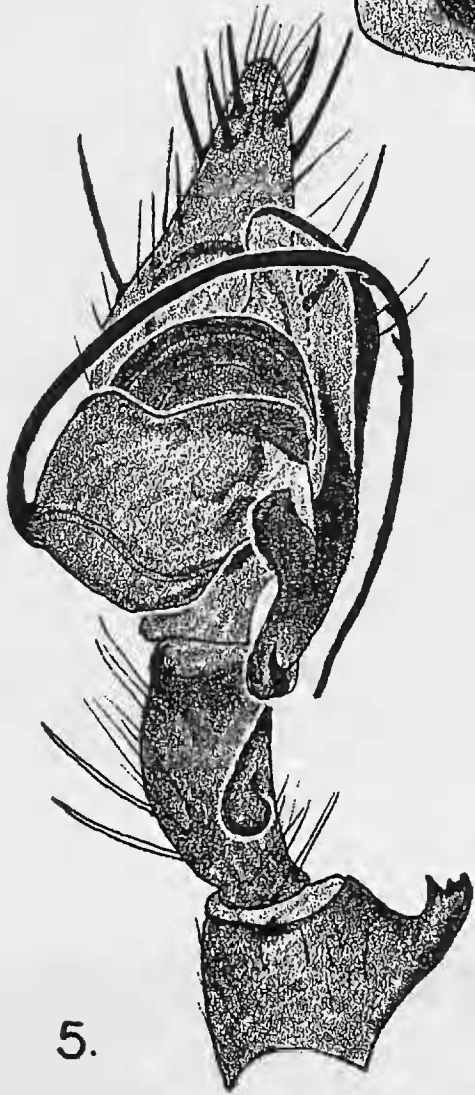
Fig. 3. Ventral view (external) of female epigynum of *Cybaeina confusa* Chamberlin and Ivie. Fig 4. Same, of *Cybaeina sequoia* new species. Fig. 5. Ventral view of left palpus of male of *C. sequoia*. Fig. 6. Same, of right palpus of *C. confusa*.



3.



4.



5.



6.

Measurements in millimeters:

Total length 4.3. Average 9 ♂ ♂ 4.12 Range 3.7-4.4.

Carapace		Metatarsus	
length	2.38	I	1.90
width	1.84	IV	2.52
head width	.90		
eye width	.64	Tarsus	
Femur		I	1.39
I	2.35	IV	1.39
IV	2.55		
Tibia-Patella		Total	
I	3.06	I	8.70
IV	3.09	IV	9.55

Allotype: Female. Color: Similar to that of male but slightly darker. Abdomen light gray, no lighter markings.

Structure: Generally the same as the male. Sides of the head straight. Eyes slightly smaller, and ratio differs slightly: AME:5, PME:9, PLE:9.5, ALE:10. Posterior eye row recurved slightly more than in the male. Right chelicera with five teeth, eight denticles on the lower margin. Left chelicera with seven teeth, eight denticles on the lower margin.

Epigynum: The external epigynum consists of a thin and smooth sclerotized sheet with sclerotized depressions (lateral sclerites) anterior to the lateral connecting canals. The center of the sheet is crossed by a short, undulating, transverse lip formed by the fusion of the two open ends of the connecting canals. Posterior to the opening is a transversely ovate depression which is lined by a median trapizoidal sclerite. The connecting canals are visible through the sclerotized sheet as illustrated in fig. 4. (The positions of these canals deviate in the paratypes but have the same pattern).

Type Locality: The allotype, holotype, four female paratypes and eight male paratypes were collected by the author near PEPPERWOOD, HUMBOLDT CO., CALIFORNIA, August 12, 1950, in a redwood (*Sequoia sempervirens*) forest under boards and bark on the ground. One dead male was attached to the underside of a board by the mycelium of the fungus, *Torrubiella aranicida* Bond³. This fungus previously has been reported on spiders from France and Great Britain. The species is named after the sequoia trees which are prominent in the type locality.

The holotype and allotype will be deposited in the California Academy of Sciences. A male and female paratype will be deposited at the American Museum of Natural History and in the collection of Dr. R. V. Chamberlin at the University of Utah. A male paratype will be deposited in the collection of Mrs. D. L.

³ Identified by Paul L. Lentz of the U. S. Dept. of Agriculture, Beltsville, Md.

Frizzell (Harriet Exline) at Rolla, Mo. The remainder of the paratypes (6 ♂ ♂, 1 ♀) will be retained in the collection of the author.

Two paratypes were used for dissection and the following description and fig. 1 was taken from them. The internal epigynum consists of two separate and more or less identical halves. Each side consists of a long connecting canal which follows an irregular path as illustrated in fig. 1. Opposite to and slightly anterior to the connecting canal openings the connecting canal is swollen slightly and bears internally a dark colored globular mass similar to that found in the genitalia of some *Cybaeus*. A magnification of approximately 1,450 X indicates the presence of minute canals which ramify throughout the mass. The canal narrows abruptly posteriorly forming the fertilization duct which lies towards the median line.

Measurements in millimeters:

Total length 4.7. Average 3 ♂ ♂ 4.26. Range 3.8–4.7.

Carapace		Metatarsus	
length	2.24	I	1.67
width	1.63	IV	2.28
head width	.61		
eye width	.89	Tarsus	
Femur		I	1.19
I	2.11	IV	1.22
IV	2.21		
Tibia Patella		Total	
I	2.79	I	7.75
IV	2.99	IV	8.67

The curved process of the patella of the male will separate this species from previously known males. The pattern of the connecting canals of the female epigynum is distinct as illustrated.

LITERATURE CITED

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EDWIN C. VAN DYKE MEMORIAL ISSUE

With the death of Dr. Edwin C. Van Dyke on September 28, 1952, entomology and the Pacific Coast Entomological Society have lost one of the greatest pioneers. In tribute to his many accomplishments the January 1953 issue of the Pan-Pacific Entomologist will be devoted to his memory.—THE EDITORS.